Application No. Not Yet Assigned Paper Dated: December 16, 2004 In Reply to USPTO Correspondence of N/A Attorney Docket No. 4174-045870 Customer No. 28289
10/518228

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## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims**

Claims 1-7 (cancelled)

Claim 8 (new): A liquid-fuel feed fuel cell, having at least a unit cell comprising: an anode having a Pt-Ru catalyst and a cathode having a Pt catalyst, opposed with each other; and a proton conductive polymer electrolyte interposed between said anode and said cathode, said anode being supplied a liquid-fuel of at least a member of a group consisting of methanol aqueous solution, isopropanol aqueous solution, and dimethylethelwater mixture, and the cathode being supplied an oxidant gas, said fuel cell further comprising:

detecting means for detecting a positive level of a potential of said anode in comparison with a potential of said cathode so as to detect a potential reversal between the anode potential and the cathode potential occurring; and

means for performing at least one of functions of increasing a supply of the liquid-fuel or the oxidant gas, raising an alarm, decreasing an output current of said fuel cell, and stopping an operation of said fuel cell, upon detecting said positive level, for preventing a Ru elution from said anode to said liquid-fuel.

Claim 9 (new): The liquid-fuel feed fuel cell according to claim 8, said detecting means detecting said positive level being not less than 200mV.

Claim 10 (new): The liquid-fuel feed fuel cell according to claim 8, further comprising a cell stack having a plurality of said unit cells layered in series, and said detecting means monitoring a potential difference between said anode and said cathode

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in at least one of said unit cells in said cell stack.

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Claim 11 (new): The liquid-fuel feed fuel cell according to claim 10, said

detecting means monitoring said potential difference of each unit cell in said cell stack.

Claim 12 (new): The liquid-fuel feed fuel cell according to claim 8,

further comprising at least two cell stacks provided with a plurality of cell groups, each

having at least one of said unit cell, and connected in series, said cell groups being connected

in parallel with each other between the cell stacks,

said detecting means monitoring a potential difference between anodes and cathodes in the

cell groups being connected in parallel to detect said positive level in any of said unit cell in

the cell groups being connected in parallel.

Claim 13 (new): The liquid-fuel feed fuel cell according to claim 12, said

detecting means detecting said positive level being not less than 200mV.

Claim 14 (new): An operation monitoring method for monitoring

operation of liquid-fuel feed fuel cell having at least a unit cell comprising: an anode having a

Pt-Ru catalyst and a cathode having a Pt catalyst, opposed with each other; and a proton

conductive polymer electrolyte interposed between said anode and said cathode, said anode

being supplied a liquid-fuel of at least a member of a group consisting of methanol aqueous

solution, isopropanol aqueous solution, and dimethylethel-water mixture, and the cathode

being supplied an oxidant gas,

said method performing at least one of functions of increasing a supply of the liquid-fuel or

the oxidant gas, raising an alarm, decreasing an output current of said fuel cell, and stopping

an operation of said fuel cell, upon detecting a positive level of a potential of said anode in

comparison with a potential of said cathode so as to detect a potential reversal between the

anode potential and the cathode potential occurring, for preventing a Ru elution from said

anode to said liquid-fuel.

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Claim 15 (new): The operation monitoring method for monitoring operation of liquid-fuel feed fuel cell according to claim 14, detecting said positive level being not less than 200mV.

Claim 16 (new): An operation monitoring method for monitoring operation of liquid-fuel feed fuel cell according to claim 14, said fuel cell further comprising a cell stack having a plurality of unit cells layered in series, said method further comprising:

a step for monitoring a potential difference between the anode and the cathode in at least one unit cell in said cell stack to detect said positive level.

Claim 17 (new): The operation monitoring method for monitoring operation of liquid-fuel feed fuel cell according to claim 16, monitoring each of potential differences in the unit cells in the cell stack.

Claim 18 (new): An operation monitoring device of a liquid-fuel feed fuel cell having at least a unit cell comprising: an anode having a Pt-Ru catalyst and a cathode having a Pt catalyst, opposed with each other; and a proton conductive polymer electrolyte interposed between said anode and said cathode, said anode being supplied a liquid-fuel of at least a member of a group consisting of methanol aqueous solution, isopropanol aqueous solution, and dimethylethel-water mixture, and the cathode being supplied an oxidant gas, said device comprising:

detecting means for detecting a positive level of a potential of said anode in comparison with a potential of said cathode so as to detect a potential reversal between the anode potential and the cathode potential occurring; and

means for performing at least one of functions of increasing a supply of the liquid-fuel or the oxidant gas, raising an alarm, decreasing an output current of said fuel cell, and stopping an operation of said fuel cell, upon detecting said positive level, for preventing a Ru elution from said anode to said liquid-fuel.

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Claim 19 (new): An operation monitoring device of a liquid-fuel feed fuel cell according to claim 18, said detecting means detecting said positive level being not less than 200mV.

Claim 20 (new): The operation monitoring device of a liquid-fuel feed fuel cell according to claim 11, the fuel cell further comprising a cell stack having a plurality of the unit cells layered in series,

said detecting means monitoring a potential difference between the anode and the cathode in at least one unit cell in said cell stack.

Claim 21 (new): The operation monitoring device of liquid-fuel feed fuel cell according to claim 18, said detecting means monitoring each of potential differences in the unit cells in said cell stack.